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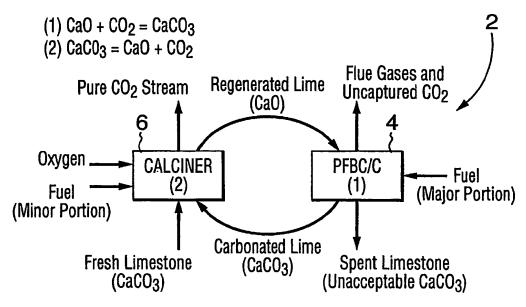
- (71) Applicant (for all designated States except US): HER MAJESTY THE QUEEN IN RIGHT OF CANADA AS REPRESENTED BY THE MINISTER OF NATURAL RESOURCES [CA/CA]; 580 Booth Street, 16th Floor, Ottawa, Ontario K1A 0E4 (CA).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ANTHONY, Edward, J. [GB/CA]; 256 Second Avenue, Ottawa, Ontario

K1S 2H9 (CA). LU, Dennis [CA/CA]; 76 Blackdome Crescent, Ottawa, Ontario K2T 1B1 (CA). SALVADOR, Carlos [CA/CA]; 25 Woodridge Crescent, Apt. 1215, Ottawa, Ontario K2B 7T4 (CA).

- (74) Agents: WILKES, Robert, A. et al.; Shapiro Cohen, P.O. Box 3440, Station D, Ottawa, Ontario K1P 6P1 (CA).
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(54) Title: REACTIVATION OF LIME-BASED SORBENTS BY CO2 SHOCKING



(57) Abstract: The present invention discloses a method and an apparatus for reactivating lime-based sorbents and increasing the carbon dioxide-capture capacity of the sorbent in the combustion of carbon-containing fuels. The method of the present invention seeks to increase the carbon dioxide capture capacity of lime-based sorbents by applying concentrated or 100% carbon dioxide directly to a lime-based sorbent. Optionally, the lime-based sorbent may be pretreated using a hydration process after each process of carbon dioxide separation. The regenerated sorbent is carbonated in a presence of concentrated carbon dioxide and elevated temperatures. The invention is useful in reducing the need to add additional sorbent to maintain the carbonation/calcination cycle. The regenerative potential of the sorbent as manifested by the present invention leads to increased carbon dioxide-capture capacity of the sorbent.

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